TYPE SPECIMENS IN THE MACLEAY MUSEUM, UNIVERSITY OF SYDNEY
VII. THE HOLOTYPE OF *GRYLLUS SPINULOSUS* JOHANSSON (INSECTA : ORTHOPTERA : TETTIGONIOIDEA)

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(Plates XXII and XXIII)

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Synopsis

Specimen of an insect, labelled 1756, in The Macleay Museum, Sydney, is identified as the holotype of *Gryllus spinulosus* Johansson 1763.

Introduction

The Macleay Museum at the University of Sydney contains a comprehensive zoological collection including a number of type specimens. Lists of types of insects (Hahn, 1962), fish (Stanbury, 1968), reptiles (Goldman *et al.*, 1969), birds (Stanbury, 1969*a*), mammals (Stanbury, 1969*b*) decapod crustaceans (Griffin and Stanbury, 1970) and mollusca (Ponder and Stanbury, 1972) have been published.

This paper describes the oldest dated specimen in the Macleay Museum.

Gryllus spinulosus

The specimen is a female orthopteran insect 7·5 cm long, belonging to the superfamily Tettigonioidea, family Tettigoniidae. It formed part of Alexander Macleay's original collection which he brought to Sydney in 1825. It is pinned to a circular label, dating from the eighteenth century, which reads : " A curious insect from Barbary, the only one known of its kind in England. Geo. Edwards, 1756 ". It has been figured by Anderson (1965) and exhibited by Whitley (1975), but its specific identity has not hitherto been fully determined.

A figure and description (Anonymous, 1799), apparently of this specimen, were recently noticed in *The naturalist's pocket magazine*, a rare, anonymous work, in seven volumes, published between 1798 and 1803, without numbers on its pages or plates. Bibliographical particulars of this publication, which also contains early paintings of Australian animals and plants, have been provided by Hindwood (1933, 1968). The anonymous author (who may have been George Shaw of the British Museum) did not give a scientific name to the insect but called it " Whistle Insect " without explanation. The locality was given as Santa Crux in Barbary.

George Edwards (1694–1773), mentioned on the Macleay Museum label, was a celebrated ornithologist who illustrated not only birds but also plants, insects and mammals on his published plates (Edwards, 1751, 1758). In Edwards' rare book *Gleanings*. (Edwards, 1758, Vol. 2 : 160, Pl. 285, figs 3–5) the " Whistle Insect " is figured from three aspects–dorsal, ventral and lateral.

Plate XXII shows the 1758 illustration and Pl. XXIII the specimen in the Macleay Museum. In both *Gleanings* and *The naturalist's pocket magazine* the

* The Australian Museum, Sydney. *Deceased, July 1975.*

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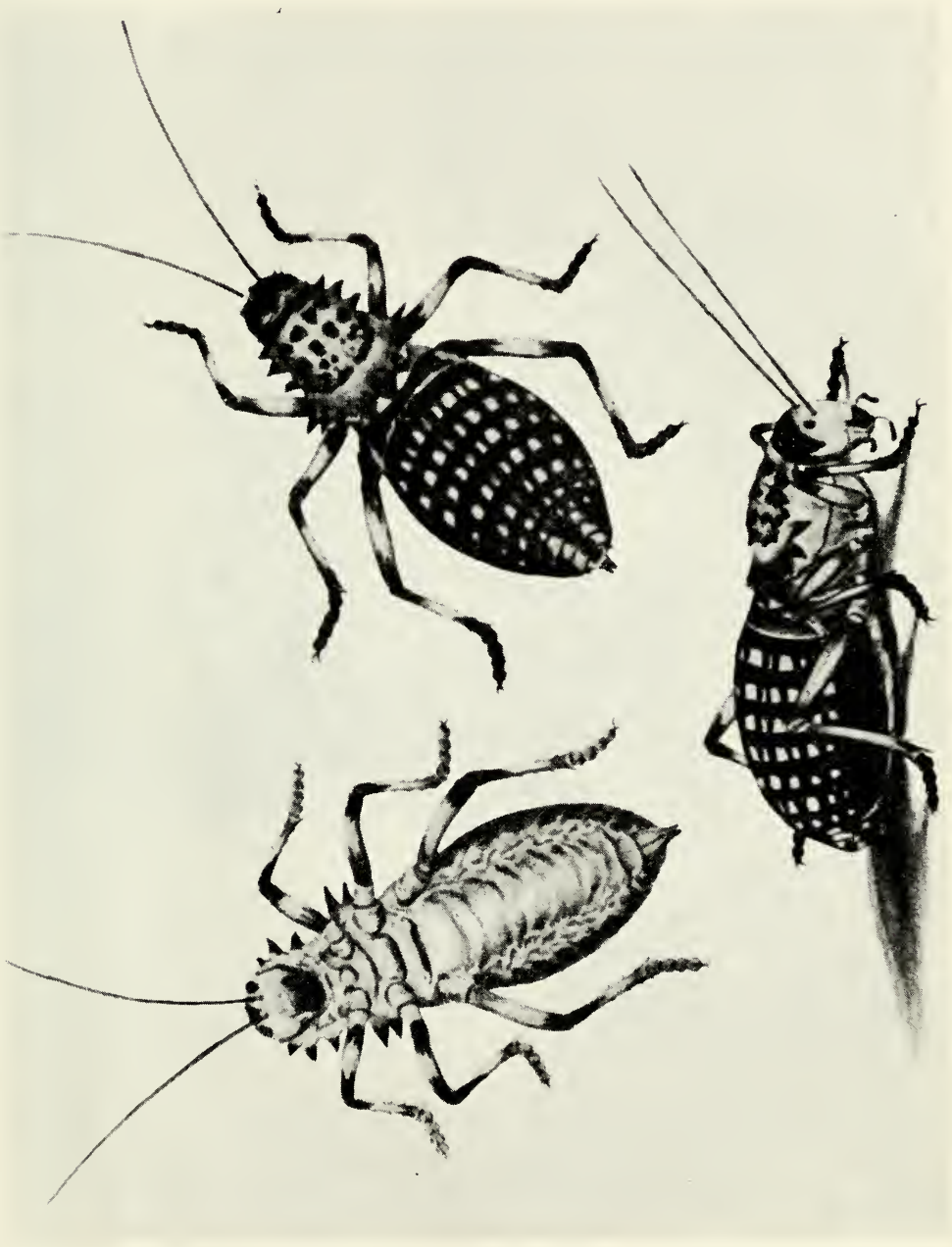

Plate xxii

A black and white photograph of the coloured illustration of the "Whistle Insect" in G. Edwards, *Gleanings of natural history* . . . London, Royal College of Physicians, 1758.

Plate xxiii

Gryllus spinulosus Johansson. The specimen in the Macleay Museum, photographed in 1975. Its length is 54 mm, head to tail, excluding antenna. (The dorsal and ventral views have been photographed at a slightly lower magnification than the lateral view.)

antennae are long, but it is hardly surprising that the specimen in the Macleay Museum has lost parts of the antennae over more than two centuries.

Edwards' text (1758, pp. 161–162) is mostly descriptive of the specimen but reads in part :

> " The Whistle-Insect is shown in three different views at the bottom of the plate. The head is made like that of a locust . . . [full description follows] . . . the horns are brown.
>
> " The Whistle-Insect was brought from Santa Crux in Barbary, by my good friend Capt. John Dobson, because it very nearly agrees with another insect found in Africa, of which the natives make whistles to call their cattle together : these whistles consist of the whole outer cover of the insect ; the head, legs and end of the tail being taken off, and the inward parts taken out ; which shells, hardened and dried for the purpose, were found hanging about the necks of the natives of Africa, on the coast over-against Madagascar. The figures of them are shewn in my History of Birds, &c. plate 178. I do not know what tribe or genus of insects to class this last with : I believe it hath not till now been figured or described ".

The Oxford English Dictionary entry under *whistle insect* is : " 1760 G. Edwards *Glean. Nat. Hist. II.* The head is made like that of a locust : the . . . thorax is surrounded with many sharp points ; . . . I have called it the Whistle-Insect, because it very nearly agrees with another insect found in Africa, of which the natives make whistles to call their cattle together : these whistles consist of the whole outer cover of the insect ".

Plate 178 of George Edwards' *Natural history of birds* (Vol. 3, 1751) shows, associated with a bird called the Grenadier, several insects, drawn in 1751. Amongst them are the dorsal, lateral and ventral views of another genus of insects (minus legs), perhaps a large weevil, and obviously the true Whistle Insect from Africa.

Such a well illustrated species as the Santa Crux Whistle Insect would have received a scientific name. Edwards' date of publication was too late for it to be noticed in Linnaeus' tenth edition of his *Systema naturae* (1758), but inspection of Gmelin's edition (1789) and a check with Fabricius (1793) showed that Edwards' Whistle Insect had been named *Gryllus spinulosus* by Linnaeus.

In Linnaeus' *Amoenitates academicae* (1763, p. 398), the following entry appears :

> " 35. *GRYLLUS spinulosus* L., thorace Ipinis muricato cinctoque, corpore aptero.
> *Edw. av.* 2.p. 161.t.285.f.3. 4. 5.
> *Habitat in* Indiis
> *Gryllos in maximos numberandus.* Antennae *filiformes, longitudine fere corporis.* Thorax *testaceus, spinis numberosis muricatur & postice margine spinoso cinctus.* Abdomen *supra nigrum maculis testaceis tesselatum. Alae nulla* ".

The evidence presented above suggests that the specimen in the Macleay Museum is the one collected by Edwards in 1756 ; described and illustrated by him in 1758 ; and first identified under Linnaeus' name in 1763.

Gryllus spinulosus is now known as *Eugaster spinulosus* (Kirby, 1906), or more correctly as *Eugaster spinulosa* (Johansson), with the specific name having a feminine ending to agree in gender with *Eugaster*. Johansson is the correct author of the name as *Amoenitates academicae* was published under Linnaeus' general authorship, with contributions from other biologists.

Another label was added to the specimen in 1975. The new label reads *Eugaster spinulosa* (Johansson). For the history of this specimen see this paper.

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